

REMARKS

This request for reconsideration is being filed in response to the final Office Action mailed June 6, 2008. For the following reasons, this application should be allowed and the application passed to issue.

Claims 1-4 and 6-9 are pending in this application. Claims 1-4 and 6-9 have been rejected. Claims 5 and 10-12 were previously canceled.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-4 and 6-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tarui et al. (JP 2003/077529) in view of Yamamoto et al. (US 2003/0054249). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention, as filed, and the cited prior art.

The Examiner asserted that Tarui et al. disclose a lithium secondary battery using a negative electrode active material comprising an alloy mainly containing Si and an element selected from the group consisting of Ti, Co, Mg, Zr, V, Mo, W, Mn, and Fe. The Examiner acknowledged that Tarui et al. do not disclose the surface layer comprising silicon oxide. The Examiner relied on Yamamoto et al. to teach the claimed silicon oxide surface layer and asserted that it would have been obvious to combine Yamamoto et al. with Tarui et al. in order to reduce anode potential during discharging and to reduce HF acid level in the electrolyte. In the Response to Arguments section, the Examiner maintained that Yamamoto et al. teach improved discharge capacity in Table 4, therefore, the arguments of unexpected results was not persuasive.

The combination of Tarui et al. and Yamamoto et al. do not suggest the negative electrode active materials for a non-aqueous electrolyte rechargeable battery, as required by claims 1 and 6, and the non-aqueous electrolyte rechargeable battery according to claim 9

because the combination of references do not suggest the unexpected results obtained by the present invention. Yamamoto et al. teach that the silicon oxide surface layer overlying an inner layer mainly composed of carbon, **not silicon**, as required by the present invention, improves the initial discharge capacity. Because Yamamoto et al. teach improving the discharge capacity of an electrode mainly composed of carbon, Yamamoto et al. do not suggest improving the capacity of an electrode wherein the active material is mainly composed of silicon, as required by claims 1, 6, and 9. Yamamoto et al. do not suggest that the silicon oxide layer surface layer would improve the discharge capacity of a negative electrode composed of mainly silicon after five charge/discharge cycles followed by high temperature storage at 80 °C (condition C4) as in the present invention (see Tables 3 and 8 of the present specification). Note that the batteries according to the present invention have an unexpectedly improved combination of discharge capacity under condition C4, Q value, and internal resistance compared to the Comparative Examples.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion in Tarui et al. and Yamamoto et al. to substitute a negative electrode active material mainly composed of Si, and an inner layer comprises an alloy comprising Si and at least an element selected from the group consisting of Ti, Co, Mg, Zr, V, Mo, W, Mn and Fe in the battery of Tarui et al., as required by claims 1, 6, and 9, nor does common sense dictate such a modification. The PTO has not provided any

evidence that there would be any obvious benefit in making such a modification of Tarui et al. See *KSR Intl Co. v. Teleflex, Inc.*, 500 U.S. ____ (No. 04-1350, April 30, 2007) at 20.

The only teaching of the claimed negative electrode active material and non-aqueous electrolyte rechargeable batteries is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend, and further distinguish the claimed positive electrode current collector.

In view of the above remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Bernard P. Codd

Registration No. 46,429

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 BPC:MWE
Facsimile: 202.756.8087
Date: September 5, 2008

**Please recognize our Customer No. 20277
as our correspondence address.**